

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of dividing a task amongst a plurality of nodes within a distributed computer, said method comprising:

receiving immediate neighbour requirements data indicating desired properties of immediate neighbour nodes in a task-suited logical network ~~task-group~~ of nodes and interconnections between them, which properties lead to said task-suited logical network ~~task-group~~ being suited to said task or tasks of a similar type;

receiving node capability data for nodes available to join said task-suited logical network;

calculating a task-suited logical network ~~task-group~~ topology in dependence upon said immediate neighbour requirements data and said node capability data; and

distributing said task amongst the plurality of nodes in accordance with the task-suited logical network ~~task-group~~ topology thus calculated.

Claim 2 (Canceled).

3. (Currently Amended) A method according to claim 1 ~~claim 2~~ wherein said immediate neighbour requirements data comprises one or more property value pairs.

4. (Currently Amended) A method according to claim 3 wherein said immediate neighbour requirements data is arranged in accordance with a predefined data structure defined by requirements format data stored in said computer, said method further comprising the step of verifying that said immediate neighbour requirements data is formatted in accordance with predefined data structure by comparing said immediate neighbour requirements data to said requirements format data.

5. (Previously Presented) A method according to claim 1 wherein said node capability data comprises one or more property value pairs.

6. (Currently Amended) A method according to claim 5 wherein said node capability data is arranged in accordance with a predefined data structure defined by node capability format data stored in said computer, said method further comprising the ~~step of verifying~~ that said node capability data is formatted in accordance with predefined data structure by comparing said node capability data to said node capability format data.

7. (Currently Amended) A method according to claim 1 further comprising the step of operating a node seeking to join said task-suited logical network ~~task-group~~ to generate node capability data and send said data to one or more nodes already included within said task-suited logical network. ~~task-group~~.

8. (Currently Amended) A method according to claim 1 wherein said task distribution involves a node forwarding a task to a node which neighbours it in said task-suited logical network ~~task-group~~-topology.

9. (Currently Amended) A method according to claim 1 wherein said immediate neighbour requirements data comprises data relating to the amount of data storage or processing power available at said node.

10. (Currently Amended) A method according to claim 1 wherein said immediate neighbour requirements data comprises data relating to the quality of communication between said node and one or more nodes already selected for said task-suited logical network. ~~task-group~~.

11. (Currently Amended) Distributed computer apparatus comprising:

a plurality of data processor nodes, each connected to at least one other of said data processor nodes via a communications link;

each of said nodes having recorded therein:

- a) task-suited logical network ~~group~~-membership policy data;
- b) graph data representing a task-suited logical network comprising a plurality of nodes and the links between them; ~~a list of group members~~;
- c) processor readable code executable to update said graph ~~group membership~~ data, said code comprising:

task-suited logical network ~~group-membership~~ request generation code executable to generate and send a task-suited logical network ~~group-membership~~ request including node profile data to another node indicated to be a member of said task-suited logical network; ~~group~~;

task-suited logical network ~~group-membership~~ request handling code executable to receive a task-suited logical network connection ~~group-membership~~-request including node profile data, and decide whether said request is to be granted in dependence upon the task-suited logical network ~~group-membership~~ policy data stored at said node;

task-suited logical network ~~group-membership~~ update code executable to update the graph data ~~list of group-members~~ stored at said node on deciding to grant a task-suited logical network connection ~~group-membership~~-request received from another node, and to send a response to the node sending said request indicating that said request is successful.

12. (Original) Distributed computer apparatus according to claim 11, wherein each node further has recorded therein node profile data generation code executable to generate said node profile data.

13. (Currently Amended) Distributed ~~Distributed~~ computer apparatus according to claim 11 or claim 12, wherein each node further has recorded therein task-suited logical network ~~group-membership~~-policy data distribution code executable to distribute said policy data, said policy distribution code comprising:

policy input code operable to receive policy data;

policy storage code operable to store said received policy data at said node; and

policy forwarding code operable forward said policy from said node to at least one other node in said distributed computer apparatus.

14. (Previously Presented) Distributed computer apparatus according to claim 11, wherein each node further has recorded therein policy format data; and

policy data format verification code executable to check that said received policy data accords with said policy format data.

15. (Previously Presented) Distributed computer apparatus according to claim 11, wherein each node further has recorded therein profile format data; and

profile data format verification code executable to check that said received node profile data accords with said profile format data.

16. (Previously Presented) Distributed computer apparatus according to claim 11, wherein each node further has recorded therein received program data execution code executable to receive program data from another of said nodes and to execute said program.

17. (Original) Distributed computer apparatus according to claim 16, wherein said plurality of processor nodes comprise computers executing different operating systems programs, and said received program execution code is further executable to provide a similar execution environment on nodes despite the differences in said operating system programs.

18. (Currently Amended) A method of operating a member node of a distributed computing network, said method comprising:

accessing task-suited logical network connection ~~membership~~-policy data comprising one or more property value pairs indicating one or more criteria for becoming an immediate neighbour ~~membership~~-of said member node in a task-suited logical network built on said distributed computing network;

receiving, from an applicant node, profile data comprising one or more property value pairs indicating characteristics of the applicant node;

determining whether said applicant profile data indicates that said applicant node meets said connection ~~membership~~-criteria for becoming an immediate neighbour of said node in said task-suited logical network;

responsive to said determination indicating that said applicant node meets said connection ~~membership~~-criteria, updating task-suited logical ~~distributed computing~~ network membership data accessible to said ~~member~~ node to indicate that said applicant node is an immediate neighbor of said member in said task-suited logical network. ~~a member node of said distributed computing network.~~

19. (Currently Amended) A method according to claim 18 wherein said member node stores graph data representing a task-suited logical network comprising a plurality of nodes and the links between them. ~~said distributed computing network membership data.~~

20. (Currently Amended) A method according to claim 19 wherein said member node stores said task-suited logical network connection ~~membership~~-policy data.

21. (Currently Amended) A method according to claim 20 further comprising the steps of:

updating said connection ~~membership~~-policy data;

removing indications that one or more nodes are members of said task-suited logical distributed computing network from said graph distributed computing network ~~membership~~-data;

sending an indication to said one or more nodes requesting them to re-send said profile data.

22. (Currently Amended) A computer readable storage medium containing a computer program product loadable into the internal memory of a digital computer including an executable program code comprising:

task-suited logical network immediate neighbour ~~task-group~~-requirements data reception code executable to receive and store received task-suited logical network immediate neighbour ~~task-group~~-requirements data;

node capability profile data reception code executable to receive and store received node capability profile data;

comparison code executable to compare said node capability data and said task task-suited logical network immediate neighbour ~~group~~-requirements data to find whether the node represented by said node capability data meets said task-suited logical network ~~task-group~~-requirements;

task-suited logical network ~~task-group~~-topology update code executable to add an identifier of said represented node to a task-suited logical network ~~task-group~~ topology data structure on said comparison code indicating that said represented node meets said requirements;

task execution code executable to receive code from another node in said task-suited logical network ~~task-group~~ and to execute said code or forward said code to a node represented as a neighbour in said task-suited logical network ~~task-group~~-topology data structure.

23. (Currently Amended) A method of operating a network to create a logical network topology based on the physical topology of said network, said logical network topology being suited to a task, said method comprising:

identifying a member node as a member of said task-suited logical network;

storing immediate neighbour requirements data representing what is required of nodes in order for them to be a suitable immediate neighbour of said member node in said task-suited logical network; ~~for said task~~;

storing candidate neighbour node capability data representing the capabilities of a candidate neighbour node in said physical network;

operating ~~a candidate node in said network~~ to compare said candidate neighbour
~~its candidate~~-node capability data with said immediate neighbour requirements data;

responsive to said comparison indicating that said candidate neighbour node
meets to meet said requirements, making said node an immediate neighbour in a
~~member of~~ said logical network.